PTO/SB/123 (01-06) Approved for use through 12/31/2008. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

enwork Reduction Act of 1995, no persons are re

CHANGE OF CORRESPONDENCE ADDRESS Patent

Address to: Mail Stop Post Issue Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

equired to respond to a collection	on of information unless it displays a valid OMB control number.
Patent Number	7,066,198 BZ
Issue Date	JUN 27,2006
Application Number	10/749,968
Filing Date	JAN 2, 2004
First Named Inventor	Jason L Smith
Attorney Docket Number	· 1

Please change the Correspondence Address for the above-	identified patent to:				
The address associated with Customer Number:					
OR					
Firm or Individual Name					
Address 420 Strafford +	Tue 3D				
City Wayne	State PA ZIP 19087				
Country USA					
Telephone 6/0 687 0599	Email intellicaster Onetzero net				
This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124). This form will not affect any "fee address" provided for the above-identified patent. To change a "fee address" use the "Fee Address Indication Form" (PTO/SB/47).					
I am the:					
Patentee.					
Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).					
Attorney or agent of record. Registration Number					
Signature Jasm & Smith					
Typed or Printed Name Juson L Sml+4					
Date 7/6/06	Telephone 6/0 687 0599				
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.					
*Total of forms are submitted.					

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: (Mail Stop Post Issue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.)



(12) United States Patent Smith

(10) Patent No.:

US 7,066,198 B2

(45) Date of Patent:

Jun. 27, 2006

PRESSURIZED FLUID CONTROLLER USING TILT / PUSH / PULL OPERATOR

Jason L. Smith, Junction Way, San Inventor: Jose, CA (US) 95131

Subject to any disclaimer, the term of this Notice: patent is extended or adjusted under 35 U.S.C. 154(b) by 104 days.

Appl. No.: 10/749,968

(22)Filed:

Jan. 2, 2004

Prior Publication Data (65)US 2005/0145283 A1

Jul. 7, 2005

(51) Int. Cl. F16P 1/00

(2006.01)

(52)

(58) Field of Classification Search 137/636.2, 137/636.3, 636, 377

See application file for complete search history.

(56)

References Cited

U.S. PATENT DOCUMENTS

3,056,867 A	*	10/1962	Eitel 20	00/81 R
3,131,574 A	*	5/1964	Clingerman 7-	4/471 R
3,589,242 A	*	6/1971	Peterson et al	91/523
4,206,602 A	*	6/1980	Watson et al	60/433
4,237,629 A	*	12/1980	Schmidt	37/234

				•
4,296,773	Α		10/1981	Harshman et al 137/312
4,404,991	Α		9/1983	Cullen 137/636.1
4,421,135	Α	*	12/1983	Harshman et al 137/312
4,680,465	Α	*	7/1987	Stevens 250/229
4,812,802	Α		3/1989	Watanabe 338/128
5,042,314	Α		8/1991	Rytter et al 74/335
5,692,541	Α	*	12/1997	Brown 137/636.2
5,743,297	Α	*	4/1998	Mueller 137/636.2
6,601,386	Bl	*	8/2003	Hori et al 60/443
6.655.229	B1	*	12/2003	Yamamoto et al 74/471 XY

* cited by examiner

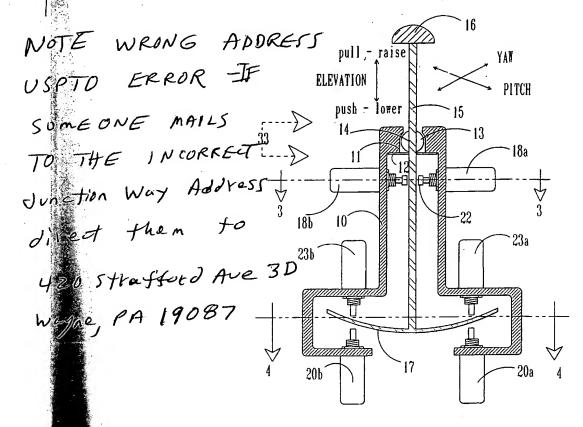
Primary Examiner-Eric Keasel Assistant Examiner-Craig Schneider (74) Attorney, Agent, or Firm-Paul Hentzel

(57)

ABSTRACT

An intuitive pressurized fluid controller using tilt/push/pull (3 axis) operator includes a swivel joint such that it can move axially and tilt. A first array of valves is arranged to be activated as the lever tilts. A second array of valves is arranged so they can be activated when the lever is pulled axially. A third array of valves is arranged so they can be activated when the lever is pushed axially. When plumbed to a plurality of pressurable positioners supporting heavy equipment, the first array of valves can control the equipment pitch and roll as the lever is tilted, and the second/third arrays of valves can control the equipment elevation as the lever is pulled/pushed.

4 Claims, 6 Drawing Sheets



ix n le re !ll